

## § 87.8

§ 87.31(a), or § 87.31(c), should not be applied based upon consideration of the following:

(1) Documentation demonstrating that all good faith efforts to achieve compliance with such standard have been made.

(2) Documentation demonstrating that the inability to comply with such standard is due to circumstances beyond the control of the owner or operator of the aircraft.

(3) A plan in which the owner or operator of the aircraft shows that he will achieve compliance in the shortest time which is feasible.

(4) Applications for a determination that any requirements of § 87.11(a), § 87.31(a) or § 87.31(c) do not apply shall be submitted in duplicate to the Secretary in accordance with procedures established by the Secretary.

(e) The Secretary shall publish in the FEDERAL REGISTER the name of the organization to whom exemptions are granted and the period of such exemptions.

(f) No state or political subdivision thereof may attempt to enforce a standard respecting emissions from an aircraft or engine if such aircraft or engine has been exempted from such standard under this part.

[47 FR 58470, Dec. 30, 1982, as amended at 49 FR 31875, Aug. 9, 1984; 49 FR 41002, Oct. 18, 1984; 70 FR 69686, Nov. 17, 2005]

### § 87.8 Incorporation by reference.

We have incorporated by reference the documents listed in this section. The Director of the Federal Register approved the incorporation by reference as prescribed in 5 U.S.C. 552(a) and 1 CFR part 51. Anyone may inspect copies at the U.S. EPA, Air and Radiation Docket and Information Center, 1301 Constitution Ave., NW., Room B102, EPA West Building, Washington, DC 20460 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(a) *ICAO material.* Table 1 of § 87.8 lists material from the International Civil Aviation Organization that we

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have incorporated by reference. The first column lists the number and name of the material. The second column lists the sections of this part where we reference it. Anyone may purchase copies of these materials from the International Civil Aviation Organization, Document Sales Unit, 999 University Street, Montreal, Quebec, Canada H3C 5H7. Table 1 follows:

TABLE 1 OF § 87.8—ICAO MATERIALS

| Document number and name   | Part 87 reference                 |
|--|-----------------------------------|
| International Civil Aviation Organization Annex 16, Environmental Protection, Volume II, Aircraft Engine Emissions, Second Edition, July 1993, Including Amendment 3 of March 20, 1997 (as indicated in footnoted pages.). | 87.8, 87.64, 87.71, 87.82, 87.89. |

(b) [Reserved]

[70 FR 69686, Nov. 17, 2005]

## Subpart B—Engine Fuel Venting Emissions (New and In-Use Aircraft Gas Turbine Engines)

### § 87.10 Applicability.

(a) The provisions of this subpart are applicable to all new aircraft gas turbines of classes T3, T8, TSS and TF equal to or greater than 36 kilonewton rated output, manufactured on or after January 1, 1974, and to all in-use aircraft gas turbine engines of classes T3, T8, TSS and TF equal to or greater than 36 kilonewton rated output manufactured after February 1, 1974.

(b) The provisions of this subpart are also applicable to all new aircraft gas turbines of class TF less than 36 kilonewton rated output and class TP manufactured on or after January 1, 1975 and to all in-use aircraft gas turbines of class TF less than 36 kilonewton rated output and class TP manufactured after January 1, 1975.

[49 FR 41002, Oct. 18, 1984]

### § 87.11 Standard for fuel venting emissions.

(a) No fuel venting emissions shall be discharged into the atmosphere from any new or in-use aircraft gas turbine engine subject to the subpart. This paragraph is directed at the elimination of intentional discharge to the atmosphere of fuel drained from fuel

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nozzle manifolds after engines are shut down and does not apply to normal fuel seepage from shaft seals, joints, and fittings.

(b) Conformity with the standard set forth in paragraph (a) of this section shall be determined by inspection of the method designed to eliminate these emissions.

### Subpart C—Exhaust Emissions (New Aircraft Gas Turbine Engines)

#### § 87.20 Applicability.

The provisions of this subpart are applicable to all aircraft gas turbine engines of the classes specified beginning on the dates specified.

#### § 87.21 Standards for exhaust emissions.

(a) Exhaust emissions of smoke from each new aircraft gas turbine engine of class T8 manufactured on or after February 1, 1974, shall not exceed: Smoke number of 30.

(b) Exhaust emissions of smoke from each new aircraft gas turbine engine of class TF and of rated output of 129 kilonewtons thrust or greater, manufactured on or after January 1, 1976, shall not exceed:

$$SN = 83.6(rO)^{-0.274} \quad (rO \text{ is in kilonewtons}).$$

(c) Exhaust emission of smoke from each new aircraft gas turbine engine of class T3 manufactured on or after January 1, 1978, shall not exceed: Smoke number of 25.

(d) Gaseous exhaust emissions from each new commercial aircraft gas turbine engine shall not exceed:

(1) Classes TF, T3, T8 engines greater than 26.7 kilonewtons rated output:

(i) Engines manufactured on or after January 1, 1984:

Hydrocarbons: 19.6 grams/kilonewton rO.

(ii) Engines manufactured on or after July 7, 1997.

Carbon Monoxide: 118 grams/kilonewton rO.

(iii) Engines of a type or model of which the date of manufacture of the first individual production model was on or before December 31, 1995 and for

which the date of manufacture of the individual engine was on or before December 31, 1999.

Oxides of Nitrogen:  $(40 + 2(rPR))$  grams/kilonewtons rO.

(iv) Engines of a type or model of which the date of manufacture of the first individual production model was after December 31, 1995 or for which the date of manufacture of the individual engine was after December 31, 1999:

Oxides of Nitrogen:  $(32 + 1.6(rPR))$  grams/kilonewtons rO.

(v) The emission standards prescribed in paragraphs (d)(1) (iii) and (iv) of this section apply as prescribed beginning July 7, 1997.

(vi) Engines of a type or model of which the date of manufacture of the first individual production model was after December 31, 2003:

(A) Engines with a rated pressure ratio of 30 or less:

(1) Engines with a maximum rated output greater than 89 kilonewtons:

Oxides of Nitrogen:  $(19 + 1.6(rPR))$  grams/kilonewtons rO.

(2) Engines with a maximum rated output greater than 26.7 kilonewtons but not greater than 89 kilonewtons:

Oxides of Nitrogen:  $(37.572 + 1.6(rPR) - 0.2087(rO))$  grams/kilonewtons rO.

(B) Engines with a rated pressure ratio greater than 30 but less than 62.5:

(1) Engines with a maximum rated output greater than 89 kilonewtons:

Oxides of Nitrogen:  $(7 + 2(rPR))$  grams/kilonewtons rO.

(2) Engines with a maximum rated output greater than 26.7 kilonewtons but not greater than 89 kilonewtons:

Oxides of Nitrogen:  $(42.71 + 1.4286(rPR) - 0.4013(rO) + 0.00642(rPR \times rO))$  grams/kilonewtons rO.

(C) Engines with a rated pressure ratio of 62.5 or more:

Oxides of Nitrogen:  $(32 + 1.6(rPR))$  grams/kilonewtons rO.

(vii) The emission standards prescribed in paragraph (d)(1)(vi) of this section shall apply as prescribed beginning December 19, 2005.

(2) Class TSS: Engines manufactured on or after January 1, 1984:

Hydrocarbons:  $140(0.92)^{rPR}$  grams/kilonewtons rO.